

Classical Swine Fever in Great Britain, 2000

This is an example of how the British veterinary infrastructure was able to trace, control, and eradicate an outbreak of classical swine fever before the disease became widespread. Classical swine fever is an exotic disease that has been eradicated from a number of developed countries. Like foot and mouth disease, it still exists in some parts of the world and could be re-introduced at any time in infected animals or animal products.

How it began

On August 4, 2000, a suspected case of classical swine fever (CSF) in a pig herd was reported to the British Ministry of Agriculture, Fisheries, and Food (MAFF) Animal Health Divisional Office at Bury St Edmunds, Suffolk. The herd consisted of 3,500 weaned pigs in seven houses. The pigs had been ill since July 11, when weaned pigs had been introduced from a breeding/multiplier unit. The infection had spread to four houses and as of August 4, a total of 1,110 pigs were ill and about 200 had died. A MAFF veterinary officer visited the premises the same day and, after examining the pigs on site, placed the holding under official movement restrictions and took blood samples to test the pigs for classical and African swine fever. On August 7, two cases of suspected classical swine fever were reported on other farms. One case was in a herd of rearing pigs. The second was in a breeding herd that had supplied weaned pigs to the other two infected farms. Both herds were immediately placed under quarantine and blood samples were sent for laboratory examination.

An outbreak of classical swine fever was declared on August 8, 2000. National and local crisis centers were established to deal with the outbreak. Three-kilometer protection and 10-kilometer surveillance zones were established around the infected premises and the movement of all pigs within the zones was prohibited. The remaining 3,300 pigs on the first identified farm were killed on August 10 and their carcasses destroyed by rendering. The premises were cleaned and disinfected on August 11. The other two farms were also depopulated. The movements of pigs, feedstuffs, vehicles, and people onto and off the premises were traced to identify possible sources of the virus and limit the spread of infection.

During the next few months, classical swine fever was found on several more farms. Before the first farm had been placed under quarantine, it had sent infected pigs to four other premises. The disease also spread to two contiguous outdoor pig farms. From one of those, classical swine fever spread to another contiguous holding and then, through the movement of pigs, to two additional premises. Two more outbreaks occurred in pig units owned by haulage operators. A total of 16 infected sites were confirmed in Great Britain between August 4 and November 3. However, by December the outbreak had been

contained. All controls relating to the 16 infected premises were lifted on December 30, 2000.

What is classical swine fever?

Classical swine fever, also known as hog cholera, is a contagious febrile disease of pigs. This disease is caused by infection with the classical swine fever virus, a member of the Pestivirus genus of the Flaviviridae family of RNA viruses. Pigs can become infected by ingestion, inhalation, genital (semen) infection, or wound contamination. Classical swine fever is most easily spread by contact with infected pigs or the feeding of inadequately cooked garbage (swill). Spread of the virus by fomites or by biting insects is also possible. The clinical signs include lethargy, yellow diarrhea, conjunctivitis, incoordination, fever, and excessive thirst. Additional signs include skin lesions ranging from cyanotic patches on the ears and abdomen to raised, scabby lesions mainly on the legs. Classical swine fever strongly resembles African swine fever and must be distinguished from it by laboratory tests.

Tracing the virus' footsteps

The source of the outbreak appears to have been the breeding farm identified on August 7th. The epidemiological inquiry found that the CSF virus probably entered the breeding unit on May 1 then spread to the other two initial cases by the movement of infected pigs. These three farms were all owned by or contracted to the U.K.'s largest outdoor pig rearing company. The company's pigs were born on breeding units and remained there for approximately three to four weeks before being moved to rearing premises where they remained for a further six to eight weeks. From the rearing units, the pigs moved to finishing units where they remained for 10 weeks before being slaughtered. This method of swine production was designed to reduce the transmission of enzootic diseases by early weaning of pigs from the breeding farm to a series of remote locations. Disease transmission from older finishing pigs to young growing pigs is avoided by having a series of separate finishing farms.

All rearing and finishing premises that had received pigs born after May 1 at the breeding unit were traced, tested for classical swine fever, and placed under official movement restrictions. All the pigs on premises that had received pigs born after June 1 were treated as "dangerous contacts" and were destroyed. The other 47 breeding herds owned by or contracted to the production company were traced, placed under quarantine, clinically inspected by a MAFF veterinary officer, and sampled for evidence of CSF. The movements of the pig transporter that moved weaned pigs from the breeding premises were traced, and the premises it visited were tested and placed under official movement restrictions.

The origin of the virus and its route of introduction were not established with complete certainty. However, the evidence strongly suggests that infection did not come through the introduction of infected pigs, contact with feral pigs, contaminated vehicles or personnel, discharges of effluent, or contaminated vaccines or biological products. It appears more likely that the infection was introduced in contaminated pig meat in food discarded by people; a public footpath runs adjacent to the outdoor paddocks containing dry sows on the breeding farm. Genetic typing showed that the outbreak was caused by a virus strain that is not currently present in Europe. This strain is in the same genetic group that was isolated during a classical swine fever outbreak in Belgium, Italy, the Netherlands, and Spain in 1997–98.

Sources of Information

http://www.oie.int/eng/info/hebdo/AIS_31.HTM

http://www.aphis.usda.gov/vs/ceah/cei/csf_uk0800e.htm

<http://www.pighealth.com/csf.htm>

<http://www.defra.gov.uk/animalh/diseases/notifiable/disease/classicalsf.htm>

<http://www.thepigsite.com>